

EP07.24 The hyperechogenic cerebellum: the added value of Doppler imaging

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Introduction

Prenatal evaluation of a hyperechogenic cerebellum presents a diagnostic challenge due to a broad differential diagnosis, including severe pathologies such as cerebellar infarction, hemorrhage, arteriovenous and cavernous malformations, to benign entities like developmental venous anomalies (DVAs). This case highlights the role of advanced Doppler evaluation for the workup of a hyperechogenic cerebellum.

Study case

A patient was referred at 29 weeks following the detection of a hyperechogenic cerebellum on routine ultrasound. Biometry, including trans-cerebellar diameter was normal, with no additional structural anomalies.

High-definition Doppler imaging at low Pulse Repetition Frequency revealed a central collecting vein within the cerebellum, characterized by uniform, low-velocity blood flow. This pattern differed from the high-velocity flow seen in arteriovenous malformations and the minimal flow of cavernous malformations.

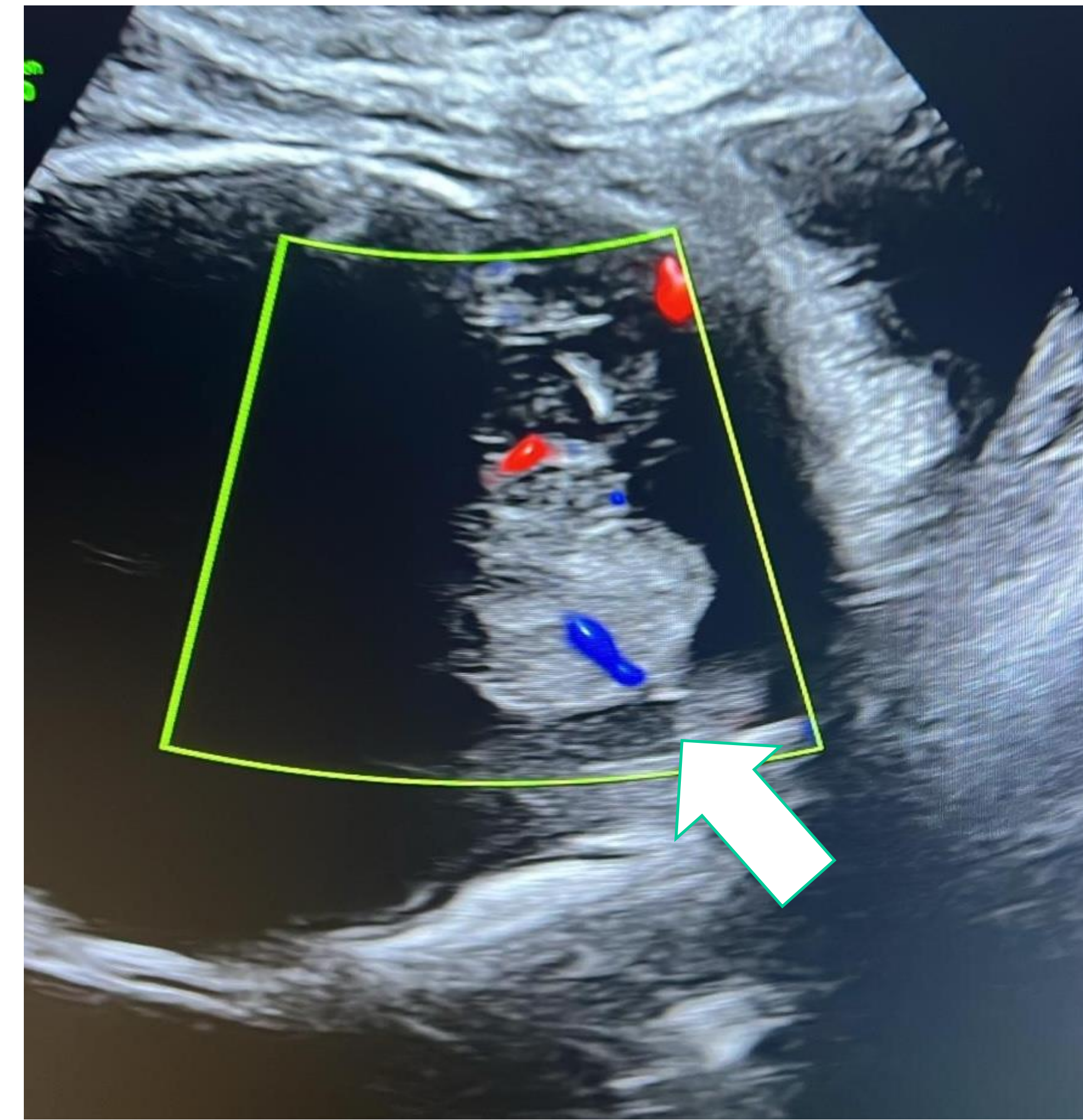


Figure .1 High-definition Doppler shows a central vein with slow flow in the left hyperechogenic

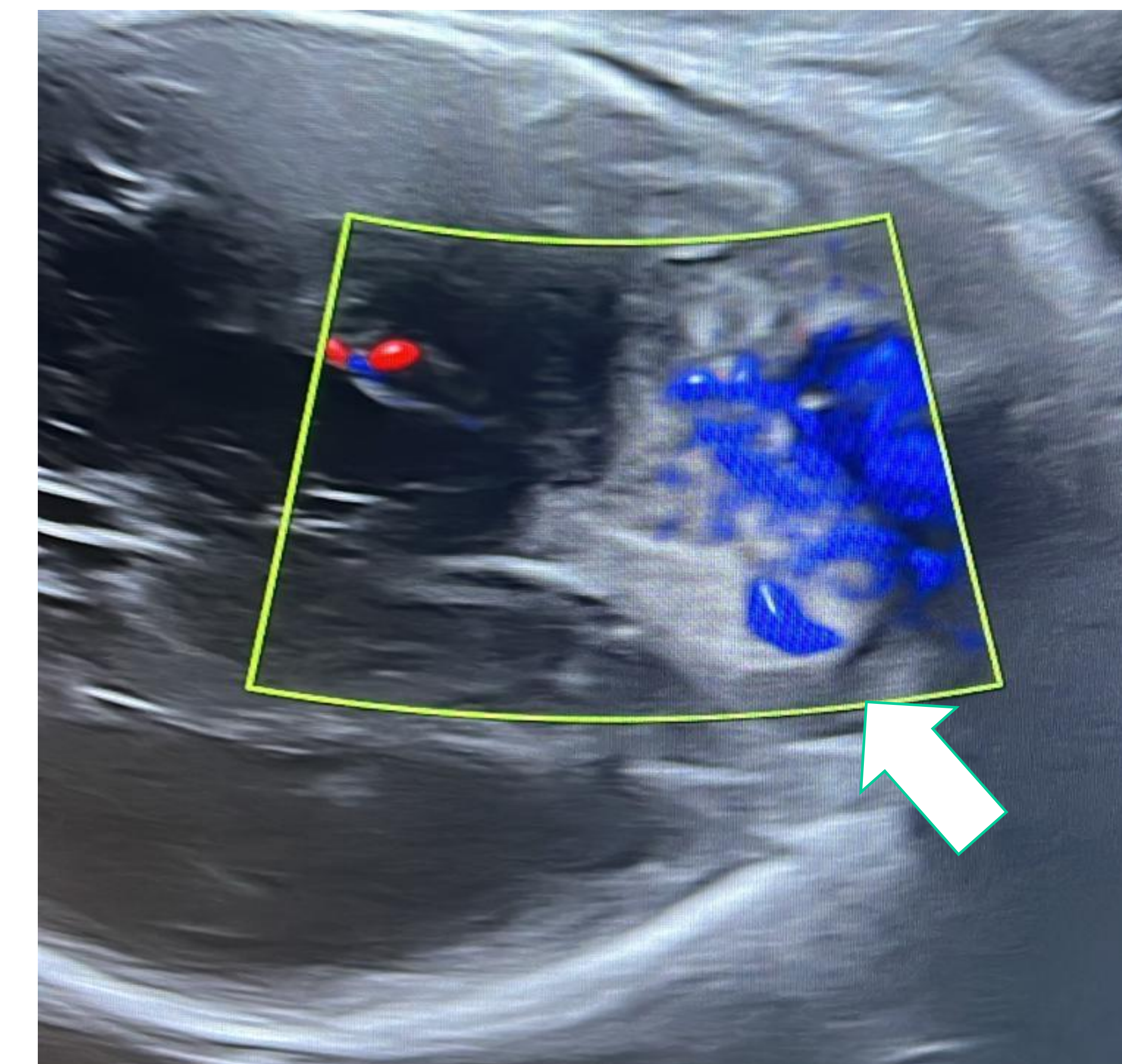


Figure .2 Slow, non-pulsatile flow supports DVA diagnosis. Use low PRF and high gain for optimal visualization.

Identifying low-velocity blood flow through the central collecting vein enabled the exclusion of severe pathology and confirmed the diagnosis of a cerebellar DVA—a benign vascular variant with a favorable prognosis.

Conclusion

Detection of slow flow in a central collecting vein confirmed a cerebellar DVA and ruled out severe pathology. This case highlights the value of targeted Doppler imaging for accurate prenatal diagnosis and reassuring counseling.